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ABSTRACT

Findings of a study that investigated the impact of a 4-day school week in an Idaho suburban school district (Shelley School District) are presented in this paper. Data were derived from: (1) surveys of all district stakeholders, which included 2,039 K-12 students, 492 parents, 103 teachers, and 85 support staff; (2) a comparison of student-achievement scores with previous years; (3) classroom observations of engaged time; (4) an analysis of student, teacher, and staff absenteeism data; and (5) cost-factor analyses. Findings indicate that student achievement increased at some grade levels, and at other grade levels it was comparable with achievement for previous years. Other outcomes included high levels of student on-task behaviors, less disruption of instructional time, sustained student engagement, a decrease in employee and student absenteeism, and an approximate 1.6 percent savings in the district budget. However, the district abandoned the 4-day week after 1 year of implementation. Abandonment of the 4-day week is attributed to the district's lack of the following key elements of systematic change--vision, public and political support, cooperative networks, attention to teachers and learning, clearly defined administrative roles and responsibilities, and policy alignment. Two tables are included. (LMI)

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Evaluation of the Four-Day School Week in Idaho Suburban Schools

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Evaluation of the Four-Day School Week in Idaho Suburban Schools

Faced with decreases in state aid, diminishing resources, and increasing costs, a growing number of school districts across the United States are experimenting with the four-day school week. Nationally, students in approximately 200 schools in eleven states attend class four days a week for all or part of the school year (Featherstone, 1991). By scheduling school four long days, usually Tuesday-Friday or Monday-Thursday, school officials hope to trim costs by saving energy and transportation monies, as well as realize advantages in such areas as teacher and student attendance. Indeed, impact studies of the four-day school week show that schools utilizing the schedule experience savings in heating, transportation, maintenance, and some instructional costs, while providing for better instructional opportunities and use of facilities (Daly & Richburg, 1984; Grau & Shaughnessy, 1987; Nelson & Dunn, 1985; Reinke, 1987; Richburg & Edelen, 1981). Implementation of the four-day school week schedule, however, has been limited to schools and districts in rural areas.

In the fall of 1992, Shelley School District, a suburban school system in southeastern Idaho, changed to a four-day schedule in which classes were conducted Monday through Thursday for 7.5 hours per day for 144 days over 36 weeks to meet state requirements for 1,080 hours per school year. This paper summarizes the results of an impact study of the implementation of the four-day school week schedule in the District.

Purpose of Study

The purpose of the present study was to investigate the impacts of the four-day school week in an Idaho suburban school district. Toward that end, answers to four major questions were sought:

1. What are the perceptions of district shareholders (students, parents, teachers, and staff) regarding the effects of the four-day school week on the district educational program; student, teacher, and staff performance; and out-of-school activities?

2. What are the effects of the four-day school week on student attendance, behavior, and achievement?

3. What are the effects of the four-day school week on teacher and staff absenteeism?

4. Does the district experience cost savings as a result of the four-day school week schedule?

Method

The study consisted of the following components; (1) surveys of all shareholders of the district including students, parents, teachers, and support staff; (2) comparison of student achievement scores with previous years; (3) classroom observations of engaged time; (4) analysis of student, teacher, and staff absenteeism data; and (5) cost factor analyses.

Study Context

Shelley School District, while having a relatively small total student population (n = 2333), meets the parameters for a suburban school system as defined by the U.S. Department of Education (1993). The district is located near an urban center, and many of its patrons commute outside the district for employment.

The district includes five schools located at separate sites: (1) Shelley Senior High School (grades 10-12), Shelley Junior High School (grades 8-9), Hobbs Middle School (grades 6-7), Stuart Elementary School (grades 3-5), and Goodsell Primary School (grades K-3).

Subjects

The subjects for the student survey component of the study included 500 students in grades 1-3, 807 students in grades 4-7, and 732 students in grades 8-12 representing approximately 93% of the total number of students in grades 1-12 enrolled in the district during the 1992-1993 academic year. For the parent survey component of the study, names of parents and legal guardians of all students registered in the district were collected and then combined into a master list so that parents with more than one child enrolled in the district would be included in the survey sample only once and so that each household would receive only one survey. Of the total 1027 parents, 492 (48%) completed and returned surveys and were subsequently included in the study sample. Finally, subjects for the survey component of the study included 103 (96%) teachers and 85 (91%) support staff (i.e.,

administrators, clerical and food service personnel, bus drivers, etc.) employed in the district.

The subjects for the student achievement component of the study included the students for whom standardized achievement test scores were available for two consecutive years--one year prior to and one year following the district's change to the four-day school week. Because the district standardized testing program requires administration of the Iowa Tests of Basic Skills (ITBS) at grades 3, 4, 5, 6, and 8 and the administration of the Tests of Achievement and Proficiency (TAP) at grade 11, the study sample was comprised of the following cohort groups:

1. students in grade 4 for whom third and fourth grade test scores were available (n = 189);
2. students in grade 5 for whom fourth and fifth grade test scores were available (n = 186);
3. students in grade 6 for whom fifth and sixth grade test scores were available (n = 184);
4. students in grade 8 for whom sixth and eighth grade test scores were available (n = 179);
5. students in grade 11 for whom eighth and eleventh grade test scores were available (n = 145).

Subjects for the classroom observation component of the study included all first- through twelfth-grade students in the district. For the attendance component of

the study, absenteeism data was accessed for all students, teachers, and staff in the district.

Procedures

During February of 1993, surveys were sent or personally administered to all teachers and staff of the school district, students in grades 1-12, and parents of children in district schools. The surveys accessed perceptions about the effects of the four-day school week schedule on the quality of the district's educational program including curriculum, instruction, and learning environment and the effects of the schedule on out-of-school activities. The survey also assessed opinions, overall impressions, and recommendations regarding the four-day school week.

Students in grades 1-12 were administered the survey by class teachers on February 24, 1993 during regularly scheduled first-hour classes. Students in grades 1-3 received a primary version of the survey consisting of 10 yes/no questions read orally by the teacher; students in grades 4-7 received an intermediate version of the survey consisting of 15 multiple-choice items; and students in grades 8-12 received a secondary version of the survey consisting of 27 likert-type items and on open-ended question regarding schedule preference and recommendations. Upon completion, the surveys were placed in a sealed envelope by the class teacher for collection by the principal investigators on the same day as the survey administration.

Survey packet (letter, survey, and prepaid return envelope) were mailed to parents on February 24, 1993 by the principal investigators. The parent survey

consisted of 29 likert-type items and an open-ended question regarding schedule preference and recommendations. Parents were instructed to mail completed surveys directly to the principal investigators by March 5, 1993.

Certified classroom teachers with responsibility for direct instruction (including music, special education, etc., but excluding specialists, librarians, and other noninstructional certified staff) were administered the teacher survey by the principal investigators on February 17, 1993 during specially scheduled faculty meetings in each school building. The teacher survey consisted of 50 likert-type items and an open-ended question regarding schedule preference and recommendations.

Survey packets (letter, survey, and prepaid return envelope) were mailed to all classified, administrative, and certified support staff in the district on February 17, 1993 by the principal investigators. The staff survey consisted of 24 likert-type items and an open-ended question regarding schedule preference and recommendations. Staff were instructed to mail completed surveys directly to the principal investigators by March 5, 1993.

For the student achievement component of the study, a pre-post cohort design was employed in order to compare the performance of the same students before and after implementation of the four-day school week in the district. This methodology involved selecting those students in grades 4-6 for whom data were available for two consecutive years and selecting those students in grades 8 and 11 for whom retroactive test scores at grades 6 or 8, respectively, were available. For the five

cohort groups identified, the mean grade equivalent score for each subtest of the ITBS and TAP was computed for each of the two years compared. These scores were then converted to percentile ranks of average grade equivalent scores using national school norms. The significance of any difference between the two means for each group was then tested using *t*-tests.

For the classroom observation component of the study, all building administrators attended a data collection training session during which the principal investigators explained the procedures for observing and recording student engaged learning time. At the conclusion of the training session, administrators viewed a videotape and recorded their observations on student on/off task behavior forms. Interrater reliability indices were then computed for the observation ratings; the resulting reliability coefficients indicated an agreement rate of approximately 96%. Each administrator completed two observations of all first-hour and last-hour classes in his or her building between October, 1992 and April, 1993. Percent of student engaged time was then computed for each observation and then averaged across observations, classrooms, and schools.

For the attendance component of the study, student, teacher, and staff absenteeism data for three consecutive years--two years before and one year during the district's implementation of the four-day school week schedule--were accessed from district records. Likewise, for the cost analyses component of the study, item expenditures for heating fuel and electricity, water and sewer, telephone, substitute teacher salaries,

transportation, and clerical, custodial, and food services for the three years were accessed from district records.

Results

The following summary presents results relative to each of the five study components (i.e., shareholder surveys; student achievement; classroom observations of engaged learning time; student, teacher, and staff absenteeism; and cost factor analyses).

Shareholder Survey Results

Shareholder survey results are categorized by students in grades 1-3, students in grades 4-7, students in grades 8-12, parents, teachers, and support staff.

Students in grades 1-3. Responses of the primary grade students indicate overwhelmingly positive attitudes toward school. Of the 500 students surveyed, 445 (89%) answered that they liked being at school, 490 (98%) said they learn a lot at school, and 446 (89%) responded that school is fun. In terms of the length of the school day, 183 (42%) of the primary grade students felt that the school day is too long, and 209 (42%) said that they get tired at school. When asked about their schoolwork, 369 (74%) of the students responded that they have enough time to finish their work in school, and 353 (71%) said that they remember their lessons on Monday.

Students in grades 4-7. Responses of the intermediate grade students indicate generally positive perceptions of the effects of the four-day school week. Of the 807 students surveyed, 573 (71%) said that they liked school better this year (with the

four-day week), and 580 (72%) answered that they preferred the four-day schedule over the five-day schedule. In addition, 509 (63%) of the students reported that they were absent less this year than last year, and 548 (68%) said that, compared to last year, they have learned more in school. However, 298 (37%) students felt that, with the four-day week, the school day is too long. In terms of what they do on Friday when there is no school, 413 (51%) of the students said they "just goof around." When asked their recommendations for the school schedule, 516 (64%) students felt that the four-day week schedule should be continued 184 (23%) felt that the schedule should be continued with some changes, and 109 (13%) felt that the four-day week should be discontinued.

Students in grades 8-12. Responses of students in grades 8-12 indicate generally positive perceptions of the effects of the four-day school week. In terms of the effects of the four-day week on the school program, 560 (77%) students felt that more can be learned in class, 538 (74%) believed that there is enough time to cover each lesson, 538 (74%) said they can remember key points of lessons, and 519 (70%) felt that lessons flow smoothly from day to day. Moreover, 523 (71%) students said that the four-day week had positive effects on participation in class, and 434 (59%) felt the four-day week allows more time for special activities and makeup work. However, 162 (22%) students said that fewer field trips and out-of-school activities are used, and 136 (19%) believe that students get more tired in class.

In terms of out-of-school activities, 501 (68%) secondary school students said that, with the four-day week, they have more time to plan and do things at home, and 474 (65%) felt that they have more time to complete school work and prepare for class. In addition, 526 (72%) students answered that they have more time to spend with family and friends, and 437 (60%) students reported that they have more time to work at a job. On the other hand, 104 (14%) students felt that, with the four-day week, they have less time to participate in school-related extracurricular activities.

When asked their recommendations for the school schedule, 497 (68%) students said the four-day school week should be continued, 143 (19%) said the four-day week should be continued with some modifications, 63 (9%) recommended that the four-day schedule be discontinued, and 29 (4%) students had no opinion. A number of students suggested specific modifications to the four-day schedule including 7th period physical education classes for sports; lengthening the school year and shortening the day; setting aside one Friday each month for makeup days due to weather; and rotating A/B days with four classes each day. The most commonly mentioned recommendation was that students be consulted for their input on scheduling decisions.

Finally, in an open-ended question, students were asked to cite advantages and disadvantages of the four-day school week schedule. The preponderance of student comments about the four-day week were positive. The advantages they listed included coming to school Monday refreshed and ready to work, better attendance

and less absences; more time to finish homework at school; more time to understand and review the material, ask questions, get individual help from the teacher, and complete projects and activities in class; greater opportunity to work at an outside job; and more time to spend with family and friends. Of the 732 students in grades 8-12 responding to the survey, 43 listed disadvantages of the four-day schedule. The disadvantages they listed included insufficient time on week-nights for homework and extracurricular activities; fatigue due to long classes and long days; and less time after school for sports practice.

Parents. The parent survey responses indicate mixed perceptions regarding the effects of the four-day week on the school program. Of the parents, 226 (46%) believed that there is enough time to adequately cover lessons, and 263 (53%) said that students and teachers are absent less. On the other hand, 126 (26%) parents felt that, with the four-day week, there is less time for special activities and makeup work, and 202 (41%) parents believed that students and teachers are more tired in class.

Relative to out-of-school activities, 258 (53%) parents felt that the four-day week provides more time for the family to spend together, 250 (51%) parents said that there is more time for their child to work at home, and 305 (62%) responded that there is more time for medical appointments. However, 166 (34%) parents said that, with the four-day school week, their child has less time to complete schoolwork and prepare for class, and 162 (33%) answered that their child wastes more time.

When asked their recommendations for the school schedule, 173 (35%) parents said the four-day week should be continued as currently designed, 89 (18%) believed the four-day week should be continued with some modifications, 205 (42%) recommended that the four-day schedule be discontinued, and 25 (5%) had no opinion. A number of parents suggested specific modifications to the four-day schedule including 7th period physical education classes for sports, requiring teachers to use Friday as a preparation day, enrichment and remedial classes on Saturday, and moving to a Tuesday-Friday schedule to better match national and state holidays. The most commonly mentioned recommendation was that parent input be sought prior to developing the school calendar.

Finally, parents were asked in an open-ended question to cite the advantages and disadvantages of the four-day school week. In a number of cases, an element considered as an advantage by some parents was considered by other parents to be a disadvantage. The conflicting nature of the parent perceptions of the four-day week becomes evident when the most frequently cited negative and positive comments are compared. The advantages of the four-day week mentioned most frequently by parents included more positive student attitudes toward school, decreased stress and less boredom, increased student achievement and higher grades, better student time management and work habits, more time for students to spend with family, and greater opportunities for students to work on school projects and reports. On the other hand, the most frequently mentioned disadvantages of the four-day week

mentioned by parents included increased student fatigue, higher student and parent stress, decreased student achievement and lower grades, more wasted time and poorer work habits, insufficient time for weekday homework and extracurricular activities, increased cost of daycare, and children left alone on Fridays.

Teachers. The teacher survey responses indicate generally positive perceptions of the effects of the four-day school week. In terms of the effects of the four-day week on the school program, 79 (77%) teachers felt that a greater variety of learning activities are used, 81 (79%) believed that curriculum continuity enables students to smoothly progress through the material, 84 (82%) felt that enough learning time is provided. Furthermore, 78 (76%) teachers said that, with the four-day school week, students participate more actively in learning, 91 (89%) teachers reported that student absenteeism is minimized, and 76 (74%) teachers said that disruption of class time is reduced. However, 26 (24%) teachers felt that student and teacher fatigue is greater with the four-day week.

Relative to their job performance, 87 (85%) teachers felt that the four-day week enables them to use time more effectively, and 75 (73%) teachers said that they are able to accomplish tasks in a more timely and quality manner. In addition, 71 (69%) stated that, with the four-day week, they had a greater sense of accomplishment and interest in their job, and 73 (71%) said they like their work better. However, 14 (12%) teachers felt that the four-day week had a negative effect on their opportunity to work with other staff members, and 26 (24%) reported that they suffered from greater stress and fatigue.

In terms of out-of-school activities, 82 (80%) teachers felt that the four-day week provides greater opportunity for them to plan and develop instructional activities, and 69 (67%) believed that they have more time for personal and professional renewal. Furthermore, 86 (84%) stated that, with the four-day week, they have greater opportunity to plan and do personal activities, and 81 (79%) said they are able to develop closer ties with family and friends.

When asked their recommendations for the school schedule, 75 (74%) teachers said the four-day week should be continued as currently designed, 15 (14%) believed the four-day school week should be continued with some modifications, 9 (9%) teachers recommended that the four-day week be discontinued, and 3 (3%) teachers had no opinion. A number of teachers suggested specific modifications to the four-day schedule including building makeup days (due to the weather) into the school schedule, establishing a Friday School for student enrichment and remediation, moving all extracurricular activities to Thursday and Friday, making copy machines and materials available to teachers on Friday, and scheduling 7th period physical education classes for sports.

Finally, teachers were asked in an open-ended question to cite the advantages and disadvantages of the four-day school week. The preponderance of teacher comments about the four-day week were positive. The advantages they listed included better attitudes and increased enthusiasm of students and teachers, especially on Mondays; better teacher and student attendance; higher student

performance and achievement; longer class periods with fewer interruptions; more time for guided practice, labs, special projects, and hands-on learning; and more time for teacher planning and professional development. Of the 103 teachers responding to the survey, only 6 listed disadvantages of the four-day schedule. The disadvantages they listed included diminished continuity of learning; untended children while parents work on Friday; negative "backlash" created in the community; and fatigue of primary grade students.

Support staff. The support staff survey responses indicate generally positive perceptions of the effects of the four-day school week. In terms of the effects of the four-day week on staff performance, 54 (64%) respondents said that they have more opportunities to try new ways of doing their work. In addition, 52 (61%) respondents said that they come to work with more enthusiasm, and 51 (60%) reported that they have more pride and interest in their job. On the other hand, 18 (21%) respondents felt that, with the four-day week, they suffer from increased stress and fatigue. Relative to out-of-school activities, 62 (73%) respondents said that the four-day week provides greater opportunities to develop closer ties with family and friends, and 63 (74%) believed that they have more time for rest and renewal.

When asked their recommendations for the school schedule, 55 (65%) support staff said the four-day week should be continued as currently designed, 13 (15%) believed that the four-day week should be continued with some modifications, 13 (15%) recommended that the four-day week be discontinued, and 4 (5%) respondents

had no opinion. A number of support staff suggested modifications to the four-day week schedule including providing for makeup days due to weather, defining changes in the master agreement (contract) in advance, and building staff development time into the school schedule.

Support staff were asked in an open-ended question to cite the advantages and disadvantages of the four-day schedule. The preponderance of staff comments about the four-day week were positive. The advantages they listed included more student, teacher, and staff enthusiasm and dedication to school, fewer student discipline problems, better student attendance, more in-class guided practice that helps low-achieving students, and the opportunity to complete maintenance work on Friday when students are not in the school building. Of the 85 support staff responding to the survey, only 9 listed disadvantages of the four-day week. The disadvantages they listed included less time for student after-school activities, increased student fatigue, cutbacks in bus routes and concomitant decreases in pay, and high stress for district employees because of community opposition to the four-day school week.

Summary. Perceptions of the effects of the four-day week differed across shareholder groups (i.e., students, parents, teachers, support staff) with parents generally being the most negative about the alternative schedule. Indeed, 42% of the parents, compared with only 9% of the teachers and students and 15% of the support staff, recommended that the four-day school week be discontinued. Many

respondents in all shareholder groups, however, felt that student achievement should be analyzed before any decision regarding the school schedule is made.

Student Achievement

A pre-post cohort design was employed in order to compare the standardized achievement test scores of the same students for two consecutive years--one year prior to and one year during the district's adoption of the four-day school week schedule. Table 1 summarizes the performance of the five cohort groups on the ITBS and/or TAP before and after change to the four-day week. Mean percentile ranks of average grade equivalent scores and results of the *t*-tests for each subtest are reported.

The fourth-grade group obtained higher scores on all subtests of the ITBS in 1993 following the change to the four-day week. As indicated by the *t*-test results, the increases were significant for five subtests (reading, language skills, mathematics skills, social studies, and science) and the complete composite score.

The fifth-grade group obtained higher scores on two subtests (reading and language skills) but lower scores on all other subtests. The *t*-test results show that the changes in scores were significant for two subtests, mathematics skills and social studies, indicating a significant decrease in those scores following implementation of the four-day school week.

The sixth-grade group obtained higher scores on all subtests of the ITBS except one, work study skills, following the change to the four-day week. As indicated

Table 1
Achievement Test Scores of Same Students
Before/After Change to Four-Day Week

Cohort Group Scores	Read	Lang	Wk Study	Math	Soc St	Science	Basic	Complete
Grade 4 (*n* = 189)								
PR of Average GE								
Grade 3 (1992)	38	38	41	24	68	63	34	37
Grade 4 (1993)	47	47	48	46	79	74	41	47
t	1.96	1.96	1.52	3.30	2.01	2.01	1.52	1.98
p	.05	.05	ns	.001	.05	.05	ns	ns
Grade 5 (*n* = 186)								
PR of Average GE								
Grade 4 (1992)	41	35	44	49	71	67	36	43
Grade 5 (1993)	47	38	43	34	62	59	33	40
t	-1.50	.98	.87	2.23	1.96	1.89	.98	.98
p	ns	ns	ns	.01	.05	ns	ns	ns
Grade 6 (*n* = 184)								
PR of Average GE								
Grade 5 (1992)	65	43	57	55	80	79	51	55
Grade 6 (1993)	80	61	55	74	84	88	70	67
t	2.32	2.59	.89	2.61	1.01	1.96	2.61	2.09
p	.01	.01	ns	.01	ns	.05	.01	.05

Table 1 (continued)
Achievement Test Scores of Same Students
Before/After Change to Four-Day Week

Cohort Group Scores	Read	Lang	Wk Study	Math	Soc St	Science	Basic	Complete
Grade 8 (n = 179)								
PR of Average GE								
Grade 6 (1991)	59	43	52	60	74	75	56	52
Grade 8 (1993)	59	52	51	53	71	78	53	53
t	0	1.94	.86	1.50	.96	.96	.96	.51
p	ns	.05	ns	ns	ns	ns	ns	ns
Grade 11 (n = 145)								
PR of Average GE								
Grade 8 (1990)	60	50	43	66	69	74	57	56
Grade 11 (1993)	65	46	62	58	50	82	57	55
t	1.14	1.10	2.68	1.91	2.68	1.91	0	.53
p	ns	ns	.01	ns	.01	ns	ns	ns

by the *t*-test results, the increases were significant for four subtests (reading, language skills, mathematics skills, and science) and the basic and complete composite scores.

The eighth-grade group obtained higher scores on two subtests (language skills and science) and the complete composite, identical scores on the reading subtest, and lower scores on three subtests (work study skills, mathematics skills, and social studies) and the basic composite. The *t*-test results indicate that only one change in scores, the increase in language skills, was significant.

The eleventh-grade group obtained a higher score on the reading subtest, identical basic composite scores, and lower scores on five subtests (language skills, work study skills, mathematics skills, social studies, and science) and the complete composite. Results of the *t*-tests show that the changes in scores were significant for only two subtests, work study skills and social studies, indicating a significant decrease in those scores following implementation of the four-day school week.

Table 2 presents the basic composite and complete composite scores for all five cohort groups before and after implementation of the four-day school week. The basic composite scores of students at grades 4 and 6 increased after the change to the four-day week, while the scores of students at grades 5 and 8 decreased, and the scores of students at grade 11 remained the same. For the complete composite, scores of students at grades 4, 6 and 8 increased after the change to the four-day week, while the scores of students at grades 5 and 11 decreased. Results of the *t*-tests indicate that the increase in basic composite scores of the sixth-grade students

Table 2
Achievement Test Scores of Same Students
Before/After Change to Four-Day Week
Basic and Complete Composites

Cohort Group	Basic Composite			Complete Composite		
	PR of Average	*t*	*p*	PR of Average	*t*	*p*
Grade 3 (1992)	34	1.52	ns	37	1.98	ns
Grade 4 (1993)	41			47		
Grade 4 (1992)	36	.98	ns	43	.98	ns
Grade 5 (1993)	33			40		
Grade 5 (1992)	51	2.61	.01	55	2.09	.05
Grade 6 (1993)	70			67		
Grade 6 (1991)	56	.96	ns	52	.51	ns
Grade 8 (1993)	53			53		
Grade 8 (1990)	57	0	ns	56	.53	ns
Grade 11 (1993)	57			55		

and the increases in complete composite scores of the fourth-grade and sixth-grade students were significant.

Classroom Observations

Student engaged learning time was assessed through observations by building administrators in classrooms during first-period and last-period classes in grades 1-12. The percentages of student on-task behaviors (i.e., attending to teacher, completing assigned work, etc.) were computed for each observation, averaged across observations and classes, and then collapsed into grade level categories. According to the administrator ratings, students in the primary grades were engaged in learning approximately 91% of the total observed time in first-hour classes and 88% of the time in last-hour classes. The administrator ratings of grade 4-7 classrooms indicated that students were on-task approximately 93% of the observed time in first-hour classes and 90% of the observed time in last-period classes. Finally, according to the administrator ratings of on/off task behaviors, students in grades 8-12 were engaged in learning approximately 95% of the total observed time in first-hour classes and 91% of the time in last-hour classes.

Attendance/Absenteeism

Student, teacher, and staff absenteeism data for three consecutive years--two years before and one year after the district's change to the four-day school week schedule--were accessed from district records. The annual average percent of daily absences of students, teachers, and staff were then computed for each year. The

absence rates for students, teachers, and staff during the two years preceding the change to the four-day week remained stable at 5% for students, 4% for teachers, and 4% for staff. Following the change to the four-day week, however, the absence rates decreased to 3% for students, 2% for teachers, and 3% for staff. These figures indicate substantial increases in student, teacher, and staff attendance following implementation of the four-day school week schedule.

Cost Factor Analyses

The following accounts for two consecutive years (one year before and the year during the district's implementation of the four-day school week) were accessed by the principal investigators from district records: (1) heating fuel (natural gas and coal) and electricity, (2) water and sewer, (3) substitute teacher salaries, (4) transportation including personnel, supplies, and fuel, and (5) telephone. As secretarial, custodial, and food service hours were not reduced with the four-day week, only scheduled differently, costs in these areas were not analyzed.

Heating fuel costs including natural gas and coal increased approximately $4,500 in the year during implementation of the four-day week. However, when adjusted for temperature and other weather factors, the energy costs for the year following the schedule change were indeed lower by approximately $2,000. In the year during implementation of the four-day week, electricity costs decreased about $8,400 and telephone costs declined approximately $3,600, while water/sewer costs increased about $4,500. Substitute teacher costs decreased an estimated $25,800.

Relative to transportation expenditures, personnel costs decreased about $14,000, repairs, supplies, and fuel decreased an estimate $28,000. However, because by Idaho law 85% of district transportation costs are reimbursed by the state, the total transportation savings were not realized as net savings in the district budget.

In summary, budget savings during the academic year the change to the four-day week was implemented totalled approximately $46,100. This figure represents a 1.6% reduction of the total operating budget of the district.

Discussion

Findings from the present study support the conclusion that advantages of the four-day school week remain the same when the schedule is implemented in a suburban school system. Consistent with the results of studies conducted in rural settings (Daley & Richburg, 1984; Grau & Shaughnessy, 1987; Nelson & Dunn, 1985; Reinke, 1987), data from the present study show that student achievement increased at some grade levels or at other grade levels was at least comparable with achievement in previous years. Moreover, classroom observations of engaged learning time indicated high levels of student on-task behaviors despite lengthened classes and longer school days. Disruption of instructional time was lower, and teaching practices such as active learning and guided practice maintained student engagement. In addition, with the four-day week, student, teacher and support staff absenteeism decreased, and the district realized an approximate 1.6% budget savings.

Despite these apparent advantages of the four-day week, and unlike rural districts that have retained the schedule, Shelley School District abandoned the four-day week after only one year of implementation. Several factors, including the suburban characteristics of the district, the apparent mixed feelings of patrons as evidenced by the parent survey responses, and the relatively modest monetary savings incurred by the district, could explain the decision to discontinue the four-day week. We hypothesize, however, that examination of the elements of effective change yields a clearer picture of the district's less than successful experience with school restructuring. Our analysis begins with an historical overview of the implementation of the four-day school week schedule in the district.

Historical Overview

In August of 1992, the district Board of Trustees mandated the implementation of the four-day school week districtwide during the 1992-1993 academic year. The stated rationale for the schedule change was to correct a budget deficit created by past financial mismanagement and shrinking resources. Almost immediately, the community began to polarize into those patrons who were for or against the restructuring effort. By the second month of the academic year, the polarization had grown, and groups were forming to force a referendum to eliminate the four-day week. At this point, in response to requests from a state legislator and the State Department of Education, we began the present impact study.

At its March 23, 1993 meeting, the district Board of Trustees announced that a public referendum would be held, in association with a supplemental levy vote, after release of the impact study results. The results were duly presented to the Board in a public meeting, the referendum was held, and the vote was approximately 52% to 48% to retain the four-day week. However, at a subsequent meeting, the Board of Trustees voted in a 2-3 decision to eliminate the four-day week and return to the five-day schedule. In response to public concern, the Board decided to hold a second referendum on the issue in July of 1993. In this second referendum, the four-day week was voted down, and the Board mandated that the district return to a five-day school week schedule for the 1993-1994 academic year.

Obviously, only highlights of the district's experience with the four-day school week have been reported, and some of these actions may appear capricious and ill-intentioned. In reality, however, these events chronicle a community's sincere effort to deal with a serious financial problem. In light of the district's experience, it becomes imperative to reflect on the lessons to be learned about effective change efforts.

Elements of Effective Change

In a synthesis of research on effective change efforts in schools, Anderson (1993) identifies six key elements of the change process: (1) vision, (2) public and political support, (3) networking, (4) teaching and learning changes, (5) administrative roles and responsibilities, and (6) policy alignment. Through a macro-level comparison of the district's actions and these six elements of the change process, an

explanation for the district's less than successful restructuring effort emerges.

Vision. The district's restructuring effort was premised on alleviating a financial problem rather than on a vision of how the system might be changed to improve student learning. The change to the four-day week was a response to a perceived crisis and all attention was focused on details related to implementing the new schedule without perceiving the change as a significant restructuring of the system. The change process began at the end stage of implementation without the benefit of building a vision for the district, understanding the impacts of the change and considering alternatives, and facilitating the transition through continuous communication, shareholder involvement, and consensus building.

Public and Political Support. Rather than involving shareholders (including the public) at the beginning through vision building, the district informed shareholders of the change during implementation. As a result, efforts to involve and seek support from shareholders did not occur until after the public had polarized into pro and con groups with separate political agendas. As such, shareholders were forced to react to the effects of the change instead of playing a proactive role in planning for change.

Networking. Networking certainly occurred in the district and community, but not to facilitate the change effort. Since the initial change elements (i.e., vision, public and political support) had not been instituted, the networks that were established were more confrontational than cooperative and constructive. Community networks were directed at either defeating the restructuring effort or "winning" (maintaining) the

change instead of building teams (networks) to strengthen the change process. Moreover, teacher and student networks were directed at adjusting to the new schedule and surviving the turbulence of community dissension rather than developing the knowledge and skills to support the restructuring effort.

Teaching and Learning Changes. Since the restructuring effort was viewed solely as a scheduling change to address financial deficits, little attention was paid to teaching and learning concerns. A substantive knowledge base was not acquired to support the change, and teachers were not provided with the learning opportunities or planning time to prepare for and meet the challenges of the four-day week. As a result, necessary teaching and learning changes were unsystematic and based on intuition and "craft knowledge" rather than research and data.

Administrative Roles and Responsibilities. Because the change to the four-day week was a unilateral decision by the Board of Trustees, little thought was given to adjustments in administrative roles and responsibilities. As noted by Anderson (1993), in successful change efforts, an implementation plan with specific action steps is clearly identified and concomitant administrative roles and responsibilities are then specified. Without the clear specification of roles and responsibilities, action steps are addressed haphazardly or not at all, and conflict between administrative units is probable.

Policy Alignment. Since the driving force behind the change to the four-day week was to reduce expenses, all consideration of policy focused on meeting state

requirements for instructional time and financial reimbursement. Because the change effort was not viewed as a systematic change, demands created by the new schedule frequently led to conflicts with existing policies. Again, examination of the effective change process indicates that through a clearly articulated vision for the change effort and its effects, policy alignment needs can be anticipated and addressed systematically reducing potential conflicts between elements of the system and shareholders.

In conclusion, the results of the present study indicate that the four-day school week holds potential benefits for both rural and suburban schools in the areas of student achievement, behavior, and attendance and teacher and staff job satisfaction. These benefits are not realized, however, when the school restructuring effort lacks the key elements of systematic change. The major implication of this study, then, is the overriding importance of an understanding of the change process and a commitment of energy and resources to sustain the change. With this understanding and commitment, school restructuring efforts, based on sound research evidence of effectiveness, will meet the challenges and promises of innovation.

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